June 17, 1969 H. E. SNEDEKER 3,449,875

BUILDING CONSTRUCTION

Filed April 6, 1967

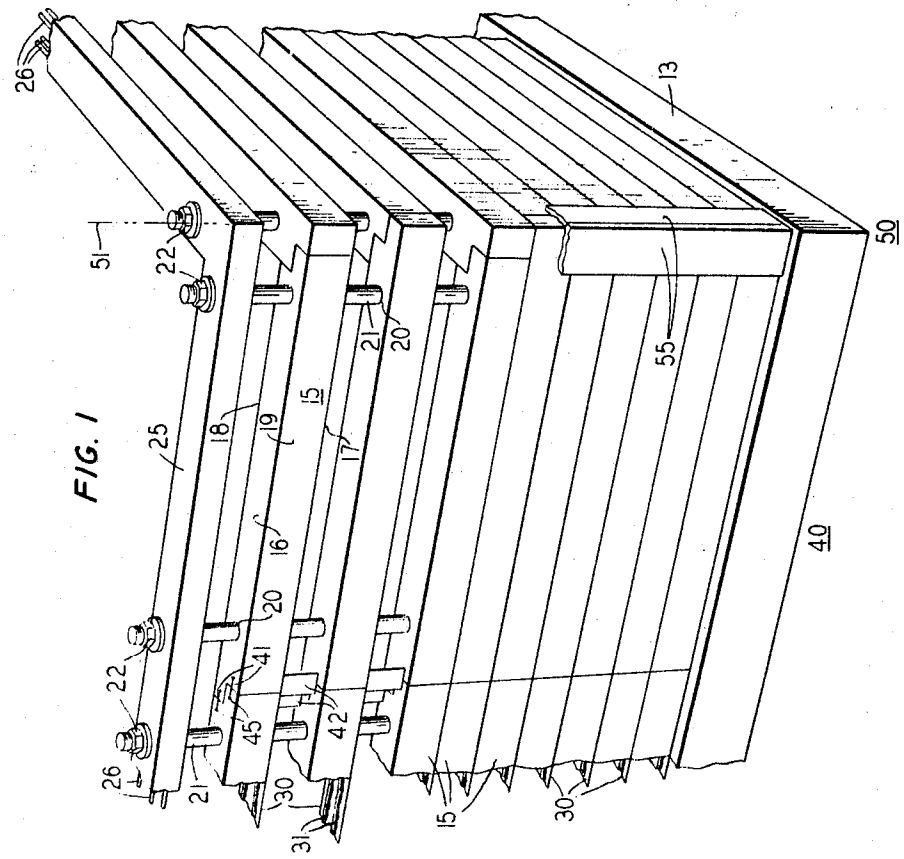


FIG. 1

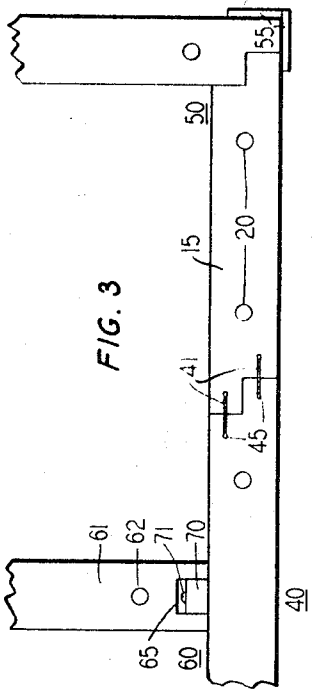


FIG. 3

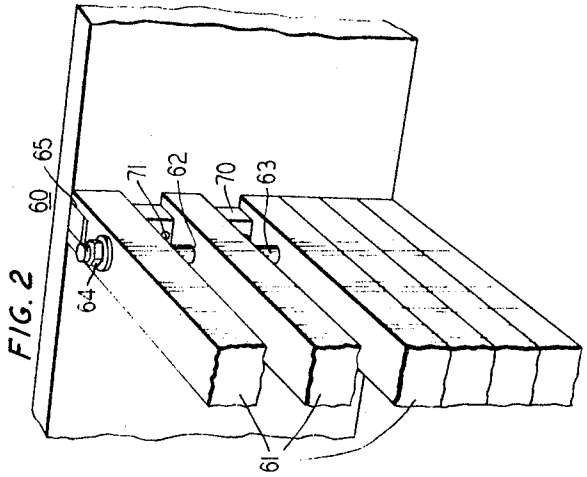


FIG. 2

INVENTOR

HERBERT E. SNEDEKER

BY D. E. Snedeker

ATTORNEY

United States Patent Office

3,449,875
Patented June 17, 1969

3,449,875

BUILDING CONSTRUCTION

Herbert Elmer Snedeker, Savannah, Ga. (233 Micanopy Court, Indian Harbour Beach, Fla. 32935)

Filed Apr. 6, 1967, Ser. No. 628,977
Int. Cl. E04c 5/08
U.S. Cl. 52—227 2 Claims

ABSTRACT OF THE DISCLOSURE

Elongated building block members, generally rectangular in cross-section, are stacked lengthwise one on top of the other to construct a building wall without any need for carpentry skill. The ridigity of the wall is ensured by vertical holes in the building block members engaging tie rods secured in the wall foundation. The ends of the building block members are rabbeted for making corner joints and intermediate wall joints.

Background of the invention

This invention relates to an improved method and arrangement of building construction and, more particularly to an improved method and arrangement of building construction employing simple and economical building block members. It has for a general object thereof the provision of a simple, practical and economical method and arrangement of building construction which minimizes or eliminates the need for skilled carpentry.

There has been a significant resurgence of interest recently in the construction of vacation homes, cabins, lodges, resort structures and the like. Numerous methods and arrangements of building construction have been employed in such structures, the most common being the well-known wood frame construction utilized in most home construction today. Conventional wood frame construction, as well as the majority of other known building construction arrangements, requires the exercise of considerable carpentry skill on the part of those erecting the structure. As a consequence, the labor costs often exceed the material costs in known building construction methods and arrangements.

Where attempts have been made heretofore to eliminate or minimize the need for skilled labor in building construction, such as through the use of various types of pre-manufactured or pre-fabricated building block components, the results have been less than satisfactory. In particular, any savings in skilled labor have been offset by the costly machining and fabrication required in the manufacture of the building components to ensure the rigidity and tightness of the structure constructed therefrom. For example, tongue and groove complements have been machined into the building block components for making horizontal and vertical joints, corners have been constructed via expensive dovetailing of portions of the building components, spring-loaded splines have been used at the joints, etc. Moreover, some of the prior building construction methods and arrangements, though eliminating the requirements for carpentry skill, give rise to a requirement for considerable dexterity and skill in assembling the components into a rigid, durable and attractive building structure.

Manifestly, a real need exists in the building construction art for a simple and economical method and arrangement of construction particularly suitable for the above-mentioned type of buildings in which the structure can be erected with ease and facility by relatively unskilled individuals.

Summary of the invention

It is, therefore, an object of this invention to provide an improved method and arrangement of building construction using a simple and economical assemblage of building block members to form a rigid, durable and low cost structure without the need for skilled carpentry.

A further object of this invention is to provide an improved method and arrangement of building construction using building components which are susceptable of simple and economical manufacture, requiring no complex machining or manipulation.

A more particular object of this invention is to provide an improved method and arrangement of building construction using simple building components which provide rigid weathertight joints without any need for tongue and groove, mortise and tenon, dovetail or other complex machining of the components.

Yet another object of this invention is to provide a rigid and durable building structure that minimizes both initial cost and maintenance cost.

In accordance with the present invention these and other objects are attained in a building construction method and arrangement employing elongated building block members, generally rectangular or trapezoidal in cross-section, which are placed lengthwise one on top of the other to construct the building walls. Aligned vertical holes in the building block members engage tie rods secured in the wall foundation to ensure the rigidity of the wall. The tie rods are capped off with fasteners, such as nuts, to place the wall building block members under slight compression.

The ends of the building block members are rabbeted for making corner joints and intermediate wall joints. The end rabbets may be cut into the building block members readily at the building site, or they may be fabricated advantageously in advance without any requirement for complex machining or manipulation of the building block members. The simplicity of the building block members and of the jointing thereof facilitates use of my invention with any plan or architectural design.

According to a further aspect of my invention, weather-stripping material is provided between adjacent building block members to ensure the weather-tightness of the building structure. In an illustrative embodiment of the invention, sealing compound and a compressible material are employed for weatherstripping the horizontal joints between adjacent building block members. Intermediate wall joints are weatherstripped in the illustrative embodiment via material inserted in slots provided in the ends of the building block members forming the intermediate joints.

An advantage of building construction following the principles of my invention, yielding further economies and savings in time and labor, is that the interior and exterior wall surfaces are erected simultaneously and as a part of the wall structure. This permits these surfaces of the building block members to be prefinished using any of the known finishing materials and techniques, such as painting, staining, chemical coating, etc. The building block members may also be pretreated advantageously with suitable wood preservatives if desired.

Brief description of the drawing

The above and other objects and features of the present invention may be fully apprehended from the following detailed description when considered in conjunction with the accompanying drawing, in which:

FIG. 1 is an exploded perspective view of a portion of an illustrative building constructed in accordance with the priciples of my invention showing the exterior wall and corner construction;

FIG. 2 is a perspective view of a portion of the illustrative building of FIG. 1 showing an interior wall assembly attached to an exterior wall; and

FIG. 3 a top plan view of a section of the interior

and exterior walls of an illustrative building constructed in accordance with the principles of my invention.

Detailed description of the invention

A portion of a building structure is illustrated in the drawing such as might be used for a vacation home, cabin, lodge or the like, although the present invention is adapted for advantageous use in the construction of other types of buildings. The portion of the building structure shown in FIG. 1 includes a part of two exterior walls which meet to form a corner of the building. The walls of the building structure are erected on any usual foundation, such as on concrete footings **13** shown in the drawing, which may be a part of a concrete floor slab upon which the building is constructed.

The exteriod walls shown in FIG. 1 are constructed of individual building block members **15** of any suitable material such as wood. The excellent insulating characteristics of wood make it particularly suited for this purpose, but it will be apparent from the description herein that building block members **15** are adapted to be readily fabricated from plastic, fiberglass, or other materials suited to the purpose of the particular building structure. Each building block member **15** has an upper face **16** and a lower face **17** which are substantially parallel to each other, an inner face **18** which may be perpendicular to face **16** and **17**, and an outer face **19**. Outer face **19** may be perpendicular to faces **16** and **17** as shown in the drawing, or it may take any other shape to give the desired exterior appearance to the building structure. For example, outer face **19** may be inclined outwardly from top to bottom to present a clapboard appearance, or face **19** may be convex to present a log cabin appearance, or one or both of the upper and lower edges of face **19** may be beveled to present a horizontal grooved appearance.

Building block members **15** may be dimensionally of any size convenient to the particular application. I have found a convenient size to be on the order of four inches thick by six to eight inches high. The length of members **15** may be perhaps anywhere from six feet on up as desired. The particular size of building block members **15** forms no part of the present invention.

An exterior wall is thus constructed, as shown in FIG. 1, by placing building block members **15** one on top of the other until the desired height of the wall is reached. To ensure the rigidity of the constructed wall, two or more vertical apertures **20** may be provided in each member **15**, aligned so as to engage tie rods **21**. Tie rods **21** are secured in footings **13** in any conventional manner and may advantageously comprise two or more sections of convenient lengths which are attached together as the wall is constructed. After the last building block member **15** is positioned at the top of the wall, a fastener such as nut **22** is secured on the threaded end of each tie rod **21** so as to hold the wall building block members **15** under slight compression. In areas of frequent high winds a bond beam **25** can be added to the top of the wall, as shown in FIG. 1, and nuts **22** tightened snugly against bond beam **25**. Bond beam **25** may comprise, for example, concrete material reinforced with metal rods **26**.

Between each vertically adjacent building block member **15** a sealing material is provided to ensure that the walls are weathertight against wind and water. Although a sealing material will not be necessary in many applications, where it is desired it can be provided conveniently during construction of the walls, for example, by placing between each adjacent member **15** a strip of compressible material, such as felt paper **30**. Further, a sealing compound **31** may be applied on each side of the compressible material, or compound **31** may be applied directly to members **15** without the use of felt paper **30**.

During the erection of the exterior walls of the building structure, two types of joints will be encountered—corner joints and intermediate joints. In accordance with the principles of my invention, both corner joints and intermediate joints are constructed with a minimum requirement for carpentry skill and without a need for expensive machining or building block members **15**, while ensuring the tightness, rigidity and durability of the resulting structure. A simple rabbet joint is used both at the corners and at intermediate wall junctures. The rabbet joint is adapted readily to on-site fabrication or lends itself to economical prefabrication of building block members **15**. In particular, it will be appreciated from the description herein that building block members **15** can be fabricated in several standard lengths so as to permit on-site construction with a minimum of cutting of members **15**.

A typical intermediate joint **40** is shown in FIG. 1 and in plan view in FIG. 3. Slots **41**, e.g., saw kerfs, are provided in abutting ends of members **15**, into which suitable weatherstripping material, such as one or more galvanized metal strips **42**, is inserted for a weathertight joint. Holes **45** may be drilled through block members **15** at the inner ends of slots **41** to prevent splitting of members **15** when strips **42** are inserted. Although slots **41** are depicted in the drawing as being provided in only the ends of members **15** defining intermediate joint **40**, for the purposes of standardized prefabrication of members **15** slots **41** may be provided advantageously in both ends of members **15**, thereby eliminating the necessity for forming slots **41** during construction.

A typical corner joint **50** is also depicted in FIG. 1 and in plan view in FIG. 3. Advantageously, as shown illustratively in FIG. 1, at each level the building block member **15** extending to edge **51** of corner **50** is alternately situated in one wall and then the other of the two walls forming the corner. Interleaving or interlocking of members **15** in this manner at the corner joints produces tight and rigid corners. To further ensure the tightness and rigidity of the corner joints, and to provide an attractive exterior appearance, corner boards such as corner board **55** are secured to members **15** by any suitable fastener. Only an outside right angle corner joint **50** is shown in FIG. 1. However, it will be apparent that an inside corner joint may be constructed readily in the same manner, as well as a corner joint formed by members **15** meeting at any angle other than ninety degrees. No weatherstripping material, such as strips **42**, is required at the corner joints, though it may be provided in a manner similar to the intermediate joints if desired.

Interior walls, in accordance with my invention, are constructed as shown in FIG. 2, in a manner similar to the exterior walls, using interior building block members **61**. Interior building block members **61** may be substantially identical to building block members **15**, except that the former will generally be rectangular in cross-section whereas the latter may or may not be, depending upon the desired exterior appearance. Apertures **62** are provided in building block members **61** to engage tie rods **63** secured in interior wall footings or in the floor of the building structure. Fasteners, such as nuts **64**, are attached to the threaded ends of tie rods **63**, so as to place members **61** under slight compression.

The manner of attaching an interior wall to an exterior wall in illustratively depicted at joint **60** in FIG. 2 and in plan view in FIG. 3. Spline **70** is attached to the exterior wall in any convenient manner such as via lag screws **71**. Notch **65** in one end of each of building block members **61** engages spline **70** to secure the interior wall to the exterior wall. One interior wall is attached to another interior wall in the same manner. Interior corner joints are constructed in substantially the same manner as corner joint **50** described above.

What has been disclosed hereinabove, therefore, is a simple and inexpensive method and arrangement of building construction which minimizes the need for skilled labor through the use of simple building block members and simple jointing of the members. The disclosed building construction arrangement is not limited to any particular architectural design or plan and, inasmuch as all walls

are load bearing, lends itself to the erection of any known type of roof. It is to be understood, therefore, that the above-described arrangements are but illustrative of the application of the principles of my invention. Numerous other arrangements may be devised by those skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

1. A building construction comprising a base foundation, a plurality of substantially identical elongated building block members having substantially parallel upper and lower surfaces for abutting vertically adjacent ones of said building block members, vertical rabbets in the ends of said building block members adapted for jointing with the ends of horizontally abutting ones of said building block members selectively in a line to form a wall or at an angle to form a corner, vertically extending apertures in each of said building block members aligned with corresponding apertures in vertically adjacent ones of said building block members, tie rod means rigidly secured in said base foundation and adapted to engage said aligned apertures in said building block members, means including said tie rod means for placing said vertically adjacent ones of said building block members under compression, compressible weatherstripping means disposed intermediate the upper and lower surfaces of vertically adjacent ones of said building block members, vertically extending slots in the ends of each of said building block members aligned with corresponding slots in vertically adjacent ones of said building block members and further aligned with corresponding slots in the ends of said horizontally abutting ones of said building block members, and weatherstripping material adapted to engage said aligned slots.

2. A building construction comprising a base foundation, a plurality of substantially identical elongated building block members having substantially parallel upper and lower surfaces for abutting vertically adjacent ones of said building block members, vertical rabbets in the ends of said building block members adapted for jointing with the ends of horizontally abutting ones of said building block members selectively in a line to form a wall or at an angle to form a corner, vertically extending apertures in each of said building block members aligned with corresponding apertures in vertically adjacent ones of said building block members, tie rod means rigidly secured in said base foundation and adapted to engage said aligned apertures in said building block members, means including said tie rod means for placing said vertically adjacent ones of said building block members under compression, and a continuous bond beam included in said compression means extending around the perimeter of said building construction and abutting the upper surface of the uppermost building block members, said bond beam having vertically extending apertures therein aligned with corresponding apertures in said building block members for engaging said tie rod means.

References Cited

UNITED STATES PATENTS

540,084	5/1895	Abruzzo	52—270
1,809,508	6/1931	Colby	46—25
1,608,273	11/1926	Glasgow	46—19
1,899,450	2/1933	Bali	52—284
1,910,326	5/1933	Ford	52—285
2,291,712	8/1942	Hatton	52—227
2,563,703	8/1951	Bonney	52—284

FOREIGN PATENTS

49,674	7/1921	Sweden.
426,535	4/1935	Great Britain.
571,186	8/1945	Great Britain.
880,934	7/1949	Germany.

JOHN E. MURTAGH, *Primary Examiner.*

U.S. Cl. X.R.

52—274, 284, 294, 300, 393, 586